



09/11/00

A

Box Patent Application
 Commissioner of Patents and Trademarks
 Washington, D.C. 20231

PATENT

Docket No. 2152-PAT

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): DAVID WHITLAM



WARNING: Patent must be applied for in the name(s) of the actual inventor(s) .37CFR 1.41 and 1.53(b).

For (title): PUTTER SOLE PLATE INSERT SYSTEM

1. Type of Application

This new application is for a(n) (check one applicable item below):

☒ Original

☐ Design

☐ Plant

WARNING: Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. 371(c)(4) unless the International Application is being filed as a divisional, continuation or continuation-in-part application.

NOTE: If one of the following 3 items apply, then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION.

☐ Divisional

☐ Continuation

☐ Continuation-in-part (CIP)

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date _____ in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number _____ addressed to the: Commissioner of Patents and Trademarks, Washington, D.C. 20231

 (Type or print name of person mailing paper)

 (Signature of person mailing paper)

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

2. **Benefit of Prior U.S. Application(s) (35 USC 120)**

NOTE: If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., then check the following item and complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

- ☐ The new application being transmitted claims the benefit of prior U.S. applications(s) and enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

3. **Papers Enclosed Which Are Required For Filing Date Under 37 CFR 1.53(b) (Regular) or 37 CFR 1.53 (Design) Application**

07 Pages of specification
04 Pages of claims
01 Pages of Abstract
01 Sheets of drawing

- ☒ formal
☐ informal

WARNING: DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. **Only one copy is required or desired.** Comments on proposed new 37 CFR 1.84. Notice of March 9, 1988 (1990 O.G. 57-62).

NOTE: "Identifying indicia such as the serial number, group and unit, title of the invention, attorney's docket number, inventor's name, number of sheets, etc., not to exceed 2 3/4 inches (7.0 cm.) in width may be placed in a centered location between the side edges within three fourths inch (19.1 mm.) of the top edge. Either this marking technique on the front of the drawing or the placement, although not preferred, of this information and the title of the invention on the back of the drawings is acceptable." Proposed 37 CFR 1.84(1). Notice of March 9, 1988 (1090 O.G. 57-62).

4. **Additional papers enclosed**

- ☐ Preliminary Amendment
☐ Information Disclosure Statement (37 CFR 1.98)
☐ Form PTO-1449
☐ Citations
☐ Declaration of Biological Deposit
☐ Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence
☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative
☐ Special Comments

☐ Other

5. Declaration or oath

☒ Enclosed
executed by (check **all** applicable boxes)

☒ inventor(s).

☐ legal representative of inventor(s). 37 CFR 1.42
or 1.43

☐ joint inventor or person showing a proprietary
interest on behalf of inventor who refused to sign
or cannot be reached.

☐ this is the petition required by 37 CFR 1.47 and
the statement required by 37 CFR 1.47 is also
attached. See item 12 below for fee.

☐ Not enclosed.

WARNING: Where the filing is a completion in the U.S. of an International Application but where a declaration is not available or where the completion of the U.S. application contains subject matter in addition to the International Application, the application may be treated as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

☐ Application is made by a person authorized under 37 CFR 1.41(c) on behalf of all the above named inventor(s). (The declaration or oath, along with the surcharge required by 37 CFR 1.16(e) can be filed subsequently).

NOTE: It is important that all the correct inventor(s) are named for filing under 37 CFR 1.41(c) and 1.53(b).

☐ Showing that the filing is authorized. (Not required unless called into question. 37 CFR 1.41(d).)

6. Inventorship Statement

WARNING: If the named inventors are each not the inventors of all the claims, an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.

The inventorship for all the claims in this application are:

☒ The same

or

☐ Are not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,

☐ is submitted

☐ will be submitted.

7. Language

NOTE: An application including a signed oath or declaration may be filed in a language other than English. A verified English translation of the non-English language application and the processing fee of \$130.00 required by 37 CFR 1.17(k) is required to be filed with the application or within such time as may be set by the Office. 37CFR 1.52(d).

NOTE: A non-English oath or declaration in the form provided or approved by the PTO need not be translated. 37 CFR 1.69(b).

☒ English

☐ non-English

☐ the attached translation is a verified translation. 37 CFR 1.52(d).

8. Assignment

☐ An assignment of the invention to _____

☐ is attached. A separate ☐ "COVER SHEET FOR ASSIGNMENT

(DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or ☐ FORM PTO 1595 is also attached.

☐ will follow

NOTE: "If an assignment is submitted with a new application, send two separate letters-one for the supplication and one for the assignment." Notice of May 4, 1990 (1114 O.G. 77-78).

9. Certified Copy

Certified copy(ies) of application(s)

COUNTRY	APPLICATION NUMBER	DATE FILED

from which priority is claimed

☐ is(are) attached.

☐ will follow.

NOTE: The foreign application forming the basis for the claim for priority **must** be referred to in the **oath** or **declaration**. 37 CFR 1.55(a) and 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. 120 is itself entitled to priority from a prior foreign application, then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

10. Fee Calculation (37 CFR 1.16)

A. ☒ Regular application

*****CLAIMS AS FILED*****				
	Number Filed	Number Extra	Rate	Basic Fee \$690.00
Total Claims	13 -20=	0	x \$18.00	-0-
Independent Claims	2 -3=	0	x \$78.00	-0-
Multiple Dependent Claim(s), if any			\$260.00	

- ☐ Amendment canceling extra claims enclosed
- ☐ Amendment deleting multiple dependencies enclosed
- ☐ Fee for extra claims is not being paid at this time

NOTE: If the fees for extra claims are not paid on filing, they must be paid, or the claims canceled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 CFR 1.16(d).

Filing Fee Calculation \$ 690.00

B. ☐ Design application

(\$310.00--37 CFR 1.16(f))

Filing Fee Calculation \$ _____

C. ☐ Plant application

(\$480.00--37 CFR 1.16(g))

Filing fee Calculation \$ _____

11. Small Entity Statement(s)

- ☒ Verified Statement(s) that this is a filing by a small entity under 37 CFR 1.9 and 1.27 is(are) attached.

Filing Fee Calculation (50% of A or B above) \$ 345.00

NOTE: Any excess of the full fee paid will be refunded if a verified statement and a refund request are filed within 2 months of the date of timely payment of a full fee. 37 CFR 1.28(a).

12. Request for International-Type Search (37 CFR 1.104(d))
(complete, if applicable)

- ☐ Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

13. Fee Payment Being Made At This Time

☐

Not Enclosed

☐

No filing fee is to be paid at this time. (This and the surcharge required by 37 CFR 1.16(e) can be paid subsequently.)

☒

Enclosed

☒

basic filing fee

\$ 345.00

☐

recording assignment

\$ _____

(\$40.00; 37 CFR 1.21(h) (1))

☐

petition fee for filing by other than the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached (\$130.00; 37 CFR 1.47 and 1.17(h))

\$ _____

☐

for processing an application with a specification in a non-English language. (\$130.00; 37 CFR 1.52(d) and 1.17(k))

\$ _____

☐

processing and retention fee

\$ _____

\$130.00; 37 CFR 1.53(d) and 1.21(l))

☐

fee for international-type search report

(\$40.00; 37 CFR 1.21(e))

\$ _____

NOTE: 37 CFR 1.21(l) establishes a fee for processing and retaining any application which is abandoned for failing to complete the application pursuant to 37 CFR 1.53(d) and this, as well as the changes to 37 CFR 1.53 and 1.78, indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee must be paid or the processing and retention fee of \$ 1.21(l) must be paid within 1 year from notification under § 53(d).

Total fees enclosed

\$ 345.00

14. Method of Payment of Fees

☒

Check in the amount of \$ 345.00

☐

Charge Account No. _____ in the amount of \$ _____
A duplicate of this transmittal is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37CFR 1.22(b).

15. Authorization to Charge Additional Fees

WARNING: If no fees are to be paid on filing, the following items should **not** be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

☒ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 07-1338 .

☒ 37 CFR 1.16(a), (f) or (g) (filing fees)

☒ 37 CFR 1.16 (b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims canceled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.16(d), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

☒ 37 CFR 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)

☒ 37 CFR 1.17 (application processing fees)

WARNING: While 37 CFR 1.17(a), (b), (c) and (d) deal with extension of time under § 1.136(a), this authorization should be made only with the knowledge that: "Submission of the appropriate extension fee under 37 CFR 1.136(a) is to no avail unless a request or petition for extension is filed." (Emphasis added). Notice of November 5, 1985 (1060 O.G.27)

☐ 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b).

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 CFR 1.31(b).

NOTE: 37 CFR 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application...prior to paying, or at the time of paying...issue fee". From the wording of 37 CFR 1.28(b):(a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

16. Instructions As To Overpayment

☒ credit Account No. 07-1338

☐ refund

Reg. No. 22,276


SIGNATURE OF ATTORNEY

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San Diego, California 92111

☐ **Incorporation by reference of added pages**

Check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED

☐ Plus Added Pages For New Application Transmittal Where Benefit Of Prior U.S. Application(s) Claimed

Number of pages added _____

☐ Plus Added Pages For Papers Referred To In Item 4 Above

Number of pages added _____

☐ Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added _____

☒ **Statement Where No Further Pages Added**

If no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item

☒ This transmittal ends with this page.

Applicant or Patentee: DAVID WHITLAM Attorney's
Serial or Patent No.: _____ Docket No.: 2152-PAT
Filed or Issued: _____
For: PUTTER SOLE PLATE INSERT SYSTEM

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) AND 1.27(c) - INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled PUTTER SOLE PLATE INSERT SYSTEM described in

[XX] the specification filed herewith
[] application serial no. _____, filed _____
[] patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 109(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

[XX] no such person, concern, or organization
[] persons, concerns or organizations listed below*



NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME _____
ADDRESS _____
[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION

FULL NAME _____
ADDRESS _____
[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION

FULL NAME _____
ADDRESS _____
[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

DAVID WHITLAM		
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
		
Signature of Inventor	Signature of Inventor	Signature of Inventor
		
Date	Date	Date

Variable	Mean	Standard deviation	Minimum	Maximum
Age	34.5	10.5	20	55
Gender	0.5	0.5	0	1
Marital status	0.5	0.5	0	1
Education	12.5	1.5	10	15
Income	15.5	5.5	10	25
Health status	0.5	0.5	0	1
Smoking status	0.5	0.5	0	1
Alcohol consumption	0.5	0.5	0	1
Exercise frequency	0.5	0.5	0	1
Stress level	0.5	0.5	0	1
Sleep quality	0.5	0.5	0	1
Work satisfaction	0.5	0.5	0	1
Life satisfaction	0.5	0.5	0	1
Depression score	0.5	0.5	0	1
Anxiety score	0.5	0.5	0	1
Overall health score	0.5	0.5	0	1

PUTTER SOLE PLATE INSERT SYSTEM

FIELD OF THE INVENTION

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This invention relates to golf clubs and in particular to putter heads.

BACKGROUND OF THE INVENTION

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A wide variety of golf clubs have been developed, with different appearance from different materials. The design of putters has continuously evolved. Essentially all putters have a hosel for receiving and connecting to the club shaft, a connection to a blade and a blade for striking the ball. The blade may have different angles to the vertical and different weight distributions intended to assure that the ball will move directly from the putter upon impact, with a desired top spin while avoiding side spin and ball skidding.

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Putters are made from a variety of materials. Generally, putters are formed from metal by casting or machining. Others have areas of composite, plastic and wood. Weight distribution along a putter blade can influence effectiveness. Some putters concentrate weight along the lower edge, others along the upper edge and still other towards the center or ends of the putter.

25

In some circumstances, it is desirable to be able to vary

the putter weight balance and total weight to accommodate different conditions and different players.

There is a continued need and desire for putters that will consistently propel the ball along the desired line and to a desired varying distance, will produce little, if any side spin, will not cause the ball to skid upon impact and twist significantly if the putter contacts the green surface during the putt.

SUMMARY OF THE INVENTION

The above-noted problems, and others, are overcome in accordance with this invention by a putter having a variable putter sole plate insert system which includes a putter having a substantially flat face angled back from vertical up to about 5°, the face having a center section and two end sections, the center section having a uniform, relatively thin, thickness and the end sections having a predetermined end mass of material behind the face. The putter has a sole which is preferably curved in an arc having a radius of from about 10 to 13 inches in the heel and toe portions and a radius in a from about 2 to 3 inch center section of from about 20 to 26 inches. The center region of the sole is cut away, with the end mass extending above the sole. An extension connects the top of the putter face to a hosel, with the hosel centerline spaced forward of the top edge of the putter

face from about 0.375 to 0.750 inch.

Interlocking means are provided at the ends of the cut away region, so that an insert of different material can be locked to the putter. the insert is formed from any suitable relatively light weight material. The remainder of the putter is formed from a relatively heavier material, such as stainless steel. The light weight sole insert has been found to elevate the putter center of gravity, with the center of gravity increasing from the sole plate up to the top of the blade. This has been found to increase top spin, reduce ball skid upon initial contact of the ball and putter face, reduce side spin by providing a larger sweet spot.

Typical light weight materials suitable for use in the insert include aluminum, copper, various plastics such as epoxies, acrylics and acetyls , graphite, titanium, wood, rubber and combinations thereof. The insert may be electroplated, painted with colored or clear coatings, anodized, etc. The body of the putter may be formed from any relatively heavy, sturdy and wear resistant material such as stainless steel, brass, or combinations thereof.

BRIEF DESCRIPTION OF THE DRAWING

Details of the invention, and of preferred embodiments thereof, will be further understood upon reference to the

drawing, wherein:

Figure 1 is a plan view of a prior art putter;

Figure 2 is a back elevation view of the prior art putter of Figure 1;

5 Figure 3 is toe end view of the prior art putter of Figure 1;

Figure 4 is a plan view of the putter of this invention;

Figure 5 is a back elevation view of the putter of Figure 4;

Figure 6 is a toe end view of the putter of Figure 4;

10 Figure 7 is a bottom view of the putter of Figure 4;

Figure 8 is an elevation view of the face of the putter of Figure 4;

Figure 9 is a heel elevation view of the putter of Figure 4;
and

15 Figure 10 is a rear perspective view of the putter of Figure 4 showing the sole insert;

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to Figures 1-3 there is seen a modern, prior art putter 10. Putter 10 includes a head 12 with an offset neck 14 connecting the head to a hosel 16 for receiving a putter shaft (not shown). Hosel 16 is basically a cylindrical tube, having a shaft receiving end that is square to the hosel centerline. Neck 14 normally has cross section between rectangular and circular.

Head 12 has a sole 18 which may be flat or slightly curved. A flat face 19 lies at an angle to sole 18 which is generally 90°. Putter head 12 has a thin central region 20 with heel region 22 and toe region 24 being considerably thicker.

5 With such conventional putters, a player cannot modify or select different head characteristics, in particular the weight relationship between central region 20 and the heel and toe regions 22 and 24 respectively.

10 Details of the improved putter with a variable weight relationship between the central and end regions are provided in Figures 4-10. As shown, the novel putter 28 includes a head 30, including a neck 32 and a hosel 34. Preferably, neck 32 has a longitudinal recess 33 along one or both of the front and back surfaces to reduce weight while retaining maximum strength.

15 Head 30 has a top surface 38 which is preferably flat and forms a line of sight for a golfer to orient perpendicular to the intended path of a putted ball. A generally flat face 40 and a sole 42 form the front and bottoms surfaces of the head. Sole 42 can be flat or convex, as desired. Face 40 preferably has an
20 angle to sole 42 of about 3 to 4.5° Back surface 44 is irregular in shape and completes the head.

Central region 46 in head 30, between face 40 and back surface 44 is relatively thin, so that most of the head weight is concentrated in the heel 48 and toe 50, which are thicker between

face 40 and back surface 44 and between the sole 42 and top surface 38.

Sole 42 is cut out as best seen in Figure 10, with recessed edges 52 extending away from back surface 44 and lying parallel to each other. Preferably, edges 52 are substantially perpendicular to back surface 44.

An insert 54 (as best seen in Figure 10) has edges 56 configured to slidably fit into the cut out region between edges 52. The weight of insert 54, both in volume and material, may be varied to vary the weight of central region 46 relative to heel 48 and toe 50. Many players prefer a relatively light insert 54 to reduce the tendency of a putter to twist on off center face impacts with the ball. Others prefer the solid feel of slightly more even weight distribution along the face. Typically, head 30 may weight from about 275 to 400 grams and insert 54 may weigh from 2 to 150 grams. Insert 54 preferably is firmly mounted in the cut out region, typically by adhesive bonding, soldering, swaging and the like. The insert can be removed and replaced with an insert of different weight by technicians with appropriate tools or by factory employees.

Typical materials that can be used for insert 54 include aluminum, plastics such as acetyl, epoxy and acrylic resins, copper, graphite, steel, depleted uranium, tungsten, brass, titanium, wood, rubber, fiber filled plastics, foamed plastics

etc. The inserts may be electroplated, painted or otherwise coated, if desired. Typically, inserts will weigh from about 2 to 150 grams. Of these, aluminum and acetyl resins such as that sold under the Delrin® trademark are preferred for relatively light weight inserts and depleted uranium, steel and tungsten for relatively heavy insets.

Inserts and heads may be manufactured in any suitable manner, such as casting and numerical controlled machining. Inserts may have any suitable dimensions. Preferably, inserts having widths from about 0.25 to 2 inches, lengths of from about 0.5 to 3.5 inches and thickness of about 0.0625 to 0.5 inch give best results. For best results the heel and toe regions will have thicknesses of at least 1.5 inches when measured from face to back and from sole to top. The central face thickness is preferably about 0.2 to 0.5 inch. In general, the face and insert thicknesses should be less than about 20% of the corresponding heel and toe region thicknesses.

Other applications, variations and ramifications of this invention will occur to those skilled in the art upon reading this disclosure. Those are intended to be included within the scope of this invention, as defined in the appended claims.

I CLAIM:

1. An improved golf putter head which comprises:

a face for striking a golf ball;

a sole for positioning adjacent to a golf green surface;

a back surface;

5 a top surface lying substantially parallel to said sole;

an elongated neck extending from said top surface for supporting a hosel with said hosel positioned forward of said face;

said hosel having an opening for receiving a putter shaft;

10 said hosel opening having an edge lying substantially parallel with said top surface;

said head having a thickness between face and back surfaces in a central region of less than 20% of the thicknesses in heel and toe regions;

15 said sole having a thickness in said central region of less than about 20% thicknesses in said heel and toe regions

said sole having a cut out region extending from said back surface toward said face;

said cut out region having parallel recessed edges; and

20 an insert configured to fill at least some of said cut out region and having edges configured to slide into said recessed edges.

2. The putter according to claim 1 wherein the density of said insert material differs from the density of said club head

material.

3. The putter according to claim 1 wherein said overall putter head weight with said insert is from about 275 to 400 grams and said insert weight is from about 5 to 150 grams.

5 4. The putter according to claim 1 wherein said insert has a width of from about 0.25 to 2 inches, a thickness of from about 0.0625 and 0.5 inch and a length of from about 0.5 to 3 inches.

10 5. The putter according to claim 1 wherein said head is formed from stainless steel and said insert is formed from aluminum.

15 6. The putter according to claim 1 wherein said neck has at least one recess parallel to said elongation.

20 7. The putter according to claim 1 wherein said heel and toe regions have thicknesses at least about 1 inch, from face to back surface.

25 8. The putter according to claim 1 wherein said heel and toe regions have thicknesses of at least about 1.5 inches, from sole to top surface.

30 9. An improved golf putter head which comprises:

a face for striking a golf ball;

a sole for positioning adjacent to a golf green surface;

a back surface;

a top surface lying substantially parallel to said sole;

an elongated neck extending from said top surface for

supporting a hosel with said hosel positioned forward of said face;

said neck having at least one recess parallel to said elongation;

5 said hosel having an opening for receiving a putter shaft;

said hosel opening lying substantially parallel with said top surface;

said head having a thickness between face and back surfaces in a central region of less than about 20% of the thicknesses in heel and toe regions;

said sole having a thickness in said central region of from about 0.0625 and 0.5 inch and thicknesses in said heel and toe regions of at least about three the thickness of said central region;

said sole having a cut out region extending from said back surface toward said face;

said cut out region having parallel recessed edges extending from said back surface; and

an insert configured to fill at least some of said cut out region and having edges configured to slide into said recessed edges.

10. The putter according to claim 9 wherein the density of said insert material differs from the density of said club head

material.

11. The putter according to claim 9 wherein said overall putter head weight with said insert is from about 275 to 400 grams and said insert weight is from about 5 to 150 grams.

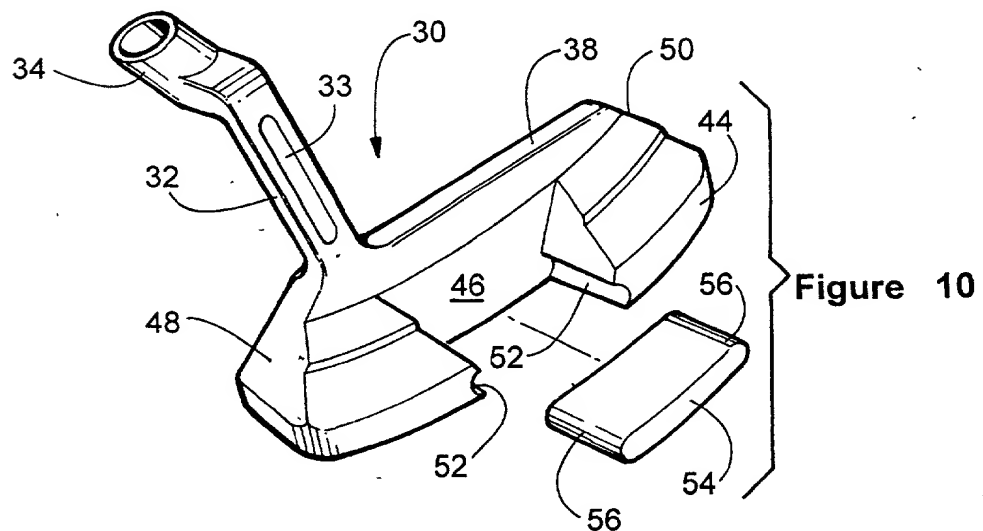
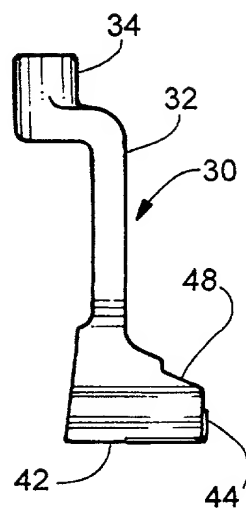
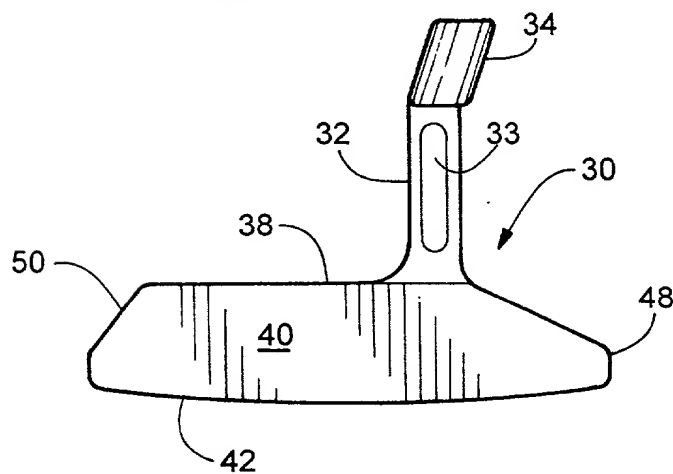
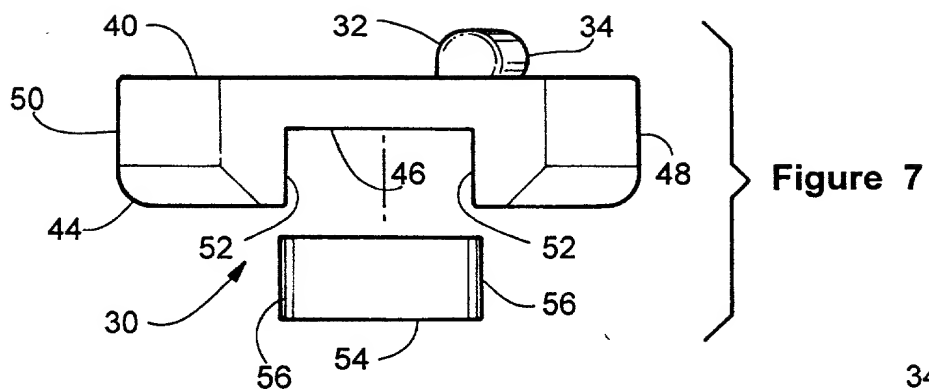
5 12. The putter according to claim 9 wherein said insert is formed from a material selected from the group consisting of aluminum, plastics such as acetyl, epoxy and acrylic resins, copper, graphite, steel, depleted uranium, tungsten, brass, titanium, wood, rubber, fiber filled plastics, foamed plastics and mixtures and combinations thereof.

13. The putter according to claim 9 wherein said head is formed from stainless steel and said insert is formed from aluminum.

ABSTRACT OF THE DISCLOSURE

A golf putter having a replaceable sole insert for varying putter head weight distribution along the length of the face.

5 The putter has relatively thin face and sole central regions, with much thicker and heavier heel and toe regions. The central region of the sole is cut out. The cut out area has two opposite parallel recessed edges extending away from the back of the putter towards the face. An insert is configure to fit in the cut out area, with edges of the insert engaging the recessed edges to retain the insert in place. The sole may be flat or radiused, and the insert may have a lower surface corresponding to the sole. A neck connects the putter head to a shaft receiving hosel. The hosel has an outer end that is cut at an angle corresponding to the upper surface of the putter.



Attorney's Docket No. 2152-PAT**COMBINED DECLARATION AND POWER OF ATTORNEY**(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION OR CIP)

As a below-named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type: (check one applicable item below)

☒ Original☐ Design☐ SupplementalNOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application do not check next item; check appropriate one of last three items.☐ National Stage of PCT

NOTE: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR C-I-P.

☐ Divisional☐ Continuation☐ Continuation-In-Part (C-I-P).**INVENTORSHIP IDENTIFICATION**

WARNING: If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTIONPUTTER SOLE PLATE INSERT SYSTEM

SPECIFICATION IDENTIFICATION

the specification of which:

(complete (a), (b) or (c))

- (a) ☒ is attached hereto.
- (b) ☐ was filed on _____ as
☐ Serial No. _____ or
☐ Express Mail No., as Serial No. not yet known _____
and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO which contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

- (c) ☐ was described and claimed in PCT International No. _____ filed on _____ and as amended under PCT Article 19 on _____ (if any).

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37, Code of Federal Regulations § 1.56, (also check the following items, if desired)

- ☐ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
- ☐ In compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

PRIORITY CLAIM

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international applications(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d) ☒ no such applications have been filed.
- (e) ☐ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (or indicate if PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code,
§ 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER	FILING DATE
_____ / _____	_____
_____ / _____	_____
_____ / _____	_____

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)
UNDER 35 U.S.C. 120**

- ☐ The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART (C-I-P) APPLICATION.

ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION

NOTE: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

POWER OF ATTORNEY

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number)

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(check the following item, if applicable)

☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named attorney(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO:

DIRECT TELEPHONE CALLS TO:

DONN K. HARMS
4565 Ruffner Street, Ste. 200
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DONN K. HARMS
Tel (858) 292-0901
Fax (858) 292-0905

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE (S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

Full name of sole or first inventor DAVID WHITLAM

Inventor's signature

Date 8/24/00 Country of Citizenship THE UNITED STATES OF AMERICA

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[illegible]

(check proper box(es) for any of the following added page(s)
that form a part of this declaration)

- ☐ **Signature** for fourth and subsequent joint inventors.
Number of pages added _____.

* * *

- ☐ **Signature** by administrator(trix), executor(trix) or legal
representative for deceased or incapacitated inventor.
Number of pages added _____.

* * *

- ☐ **Signature** for inventor who refuses to sign or cannot be reached by
person authorized under 37 CFR 1.47.
Number of pages added _____.

* * *

- ☐ Added page for **signature** by one joint inventor on behalf of
deceased inventor(s) where legal representative cannot be
appointed in time. (37 CFR 1.47)

* * *

- ☐ Added pages to combined declaration and power of attorney for
divisional, continuation, or continuation-in-part (C-I-P)
application.

☐ Number of pages added _____.

* * *

- ☐ Authorization of attorney(s) to accept and follow instructions
from representative.

If no further pages form a part of this Declaration then end this
Declaration with this page and check the following item

☒ This declaration ends with this page